Attorney Docket # 502901-335 Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Thomas SCHMIDT
Serial No.: 10/533,022
Filed: April 26, 2005
For: Connection Piece for a Fuel Pump

Examiner: Weinstein, Leonard J.
Group Art: 3746

Mail Stop **Appeal Brief - Patents**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

SIR:

This is an appeal, pursuant to 37 C.F.R. § 41.37 from the decision of the Examiner in the above-identified application, as set forth in the Final Office Action wherein the Examiner finally rejected Appellant's claims. The rejected claims are reproduced in the Appendix A attached hereto. A Notice of Appeal was filed on December 22, 2010 with a Pre-Appeal Brief Request for Review. A Notice of Panel Decision issued on January 19, 2011. Thus, the period for response ends on February 22, 2011. Please charge the amount of **$540** in payment of the government fee for filing an Appeal Brief pursuant to 37 C.F.R. § 41.20 to our Patent and Trademark Office Deposit Account No. 03-2412.

Any additional fees or charges in connection with this application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

REAL PARTY IN INTEREST

The assignee, Siemens Aktiengesellschaft, of applicant, Thomas Schmidt, is the real party of interest in the above-identified U.S. Patent Application.

RELATED APPEALS AND INTERFERENCES

There are no other appeals and/or interferences related to the above-identified application at the present time.

STATUS OF CLAIMS

Claims 3, 5, 8 and 9 have been cancelled. Claims 1, 2, 4, 6, 7 and 10 have been rejected. Claims 1, 2, 4, 6, 7 and 10 are on appeal.

STATUS OF AMENDMENTS

There have been no Amendments filed subsequent to the Final Office Action.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Appellant's disclosed invention of independent **Claim 1** is directed to a connection piece (4) for a fuel pump (see Fig. 1, pg. 4, line 7-9 of the specification as originally filed). The connection piece (4) comprises a receiving device (12) (see Fig. 2; pg. 4, lines 18-19 of the specification as originally filed) and a plug (7) arranged in the receiving device (12) (see Fig. 2; pg. 4, lines 18-20 of the specification as originally filed). The plug (7) has electrical contacts (6) for connecting an electric motor (1) of the fuel pump to a mains supply (see Figs. 2-3; pg. 4, lines 14-16 of the specification as originally filed). The plug (7) also has an integrally formed, circumferential sealing lip (17) which includes a region that is oriented toward the electrical

contacts (2) and which seals the plug (7) against the receiving device (12) when fuel is conveyed through the fuel pump (see Fig. 3; pg. 4, lines 28-31 of the specification as originally filed), where the plug (7) is extrusion-coated with plastic to form a plug casing, and the circumferential sealing lip (17) is integrally formed together with the plug casing in one working step to permit simultaneous production of the integrally formed circumferential sealing lip (17) with the plug casing (see Fig. 3, pg. 1, lines 31-33 of the specification as originally filed).

GROUNDS OF REJECTION TO BE REVIEWED IN APPEAL

1. Whether claims 1, 2, 4 and 7 are patentable under 35 U.S.C. §103(a) over U.S. Patent No. U.S. Patent No. 5,631,445 ("*Herster*") in view of U.S. Pat. No 6,478,613 ("*Zoell*")?

2. Whether claims 1, 6 and 10 are patentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,697,769 ("*Kobman*") in view of *Zoell*?

ARGUMENT

1. REJECTION OF CLAIMS 1, 2, 4, AND 7 IN VIEW OF HERSTER AND ZOELL

INDEPENDENT CLAIM 1

Independent claim 1 recites, *inter alia*, "an integrally formed, circumferential sealing lip which includes a region that is oriented toward the electrical contacts and which seals the plug against the receiving device when fuel is conveyed through the fuel pump, the plug being extrusion-coated with plastic to form a plug casing, the circumferential sealing lip being integrally formed together with the plug casing in one working step to permit simultaneous production of the integrally formed circumferential sealing lip with the plug casing".

That is, beyond requiring the sealing lip to include a region that is oriented toward the electrical contacts, the sealing lip is additionally required to seal the plug against the receiving device when fuel is conveyed through the pump. Accordingly, the claimed sealing lip requires multiple aspects to be met, i.e., (i) the sealing lip is required to be circumferential and have a region that is oriented toward the electrical contact and, at the same time, (ii) the sealing lip is required to seal the plug against the receiving device when fuel is conveyed through the fuel pump, and (iii) the sealing lip is required to be integrally formed with the plug casing. *Herster* fails to teach or suggest these features because the seal disclosed by *Herster* is an O-ring.

Herster discloses "an electrical fitting for routing wires to an in-tank mounted fuel pump which provides an effective barrier against fuel vapor emissions from the fuel tank" (see col. 1, lines 6-9). *Herster* (col. 4, lines 45-50) expressly explains that "plug 34 has an annular groove 62 in collar 64 between flange 54 and tabs 50 for receiving an O-ring 66 or other sealing device" to provide "a seal between fitting 32 and downstanding ring 58". *Herster* additionally explains that O-ring 66 is preferably made of fluorocarbon. Moreover, *Herster* repeatedly mentions different seals and sealants for providing sealing functions (see, e.g., col. 3, lines 28-30 and col. 3, line 66 to col. 4, line 8; Fig. 3A). The skilled person would have no reason to provide an O-ring 66, a seal 40 or a sealant 46 if it were indeed possible for any portion of the groove 62 to provide a sealing capability in the manner required by independent claim 1. The O-ring 66 in particular would be redundant if the groove 62 itself could provide the sealing capability.

The groove 62 of *Herster* does not seal the plug 32 against the receiving device 58. Rather, the *Herster* device includes the O-ring 66 that is provided to achieve the sealing function. Thus, there is no part of *Herster* that can be considered to be the claimed circumferential sealing lip. Indeed, as stated previously, the O-ring 66 is included in the *Herster* device to provide the sealing function. However, this O-ring is not an integrally formed

circumferential sealing lip that includes a region that is oriented toward the electrical contacts, as required by independent claim 1.

In the August 25, 2010 Final Office Action, the Examiner (at pgs. 3-4) asserts that *Herster* teaches "an integrally formed, circumferential sealing lip (lower horizontal surface of groove 62; '62')", the circumferential sealing lip "includes a region that is oriented toward the electrical contacts (44, 45)", and that the circumferential sealing lip "seals the plug 32 against the receiving device 58". Appellant disagrees.

Figs. 3A and 3B of *Herster* clearly show that the Examiner-identified surface of the groove 62 extends perpendicularly to the surface of the receiving device. Consequently, the groove 62 is not oriented toward the electrical contacts 44, 45. Furthermore, the groove 62 itself does not seal the plug against a receiving device. Under the Examiner's proffered analysis, *Herster* fails to provide a plug that is extrusion coated. Accordingly, it is simply impossible for the groove 62 itself to seal the plug 32 against the receiving device 58 and be an integral part of the plug as asserted.

The Examiner further asserts at pg. 2 of the December 1, 2010 Advisory Action that:

> With respect to Herster, groove 62 defines a recess that points from an outer surface of the upper end 55 of the fitting 32 towards the electrical contacts 44, 45. The bottom of the groove below the o-ring 66 forms one lip that was formed from the outside towards the center of the fitting. Thus this surface was formed or "oriented" in the direction of the electrical contacts. Further when the o-ring is placed in the groove it traverses the lower horizontal surface of the groove 62 from the outside toward the electrical contacts. From the vantage point of the o-ring just before its insertion the lower surface is orientated toward the contacts. Further as a result of the lower surface, the o-ring will be "oriented toward" the electrical contacts by the lower surface because the surface will guide the o-ring's movement toward the contacts.

Appellant disagrees.

Even assuming, *arguendo*, that the *Herster* groove 62 is oriented toward the electrical contacts as asserted by the Examiner – which in any event Appellant disputes for reasons stated above – *Herster* nevertheless fails to teach or suggest that any portion of the groove 62 is provide to seal the plug against the receiving device when fuel is conveyed through the pump.

The Examiner still further asserts at pg. 2 of the December 1, 2010 Advisory Action) asserts that:

> *[T]he limitations as claimed do not limit either the circumferential sealing lip in total or a region directed toward the contacts to seal a plug against the receiving device.* The limitations also do not require that the sealing lip be the only element that seals the plug against the receiving device. First the *lower horizontal surface of the groove 62 (1) forms a seal with an outer circumference that abuts the inner surface of the receiving device* which alone meets the limitations as claimed because the region that is "orientated toward the electrical contacts" is not exclusively required by the claim to perform the sealing function. Second since the claims does not require the sealing lip to be the sole element that seals the plug against the receiving device any element that is part of an assembly that seals the two elements meets the limitations as claimed. *With the lower horizontal surface of the groove 62 there is a defined a portion of a sealing assembly that receives and guides and O-ring for the direct seal between the plug and the receiving devices.* The lower horizontal surface is part of an assembly that seals these two elements and therefore meets the limitations as claimed (emphasis added).

Appellant disagrees.

Independent claim 1 recites "an integrally formed, circumferential sealing lip which includes a region that is oriented toward the electrical contacts and which seals the plug against the receiving device when fuel is conveyed through the fuel pump" and "the plug being extrusion-coated with plastic to form a plug casing, the circumferential sealing lip being

integrally formed together with the plug casing". Again, beyond requiring that the sealing lip include a region that is oriented toward the electrical contacts, the sealing lip is additionally required to seal the plug against the receiving device when fuel is conveyed through the pump, i.e., (i) the sealing lip is required to be circumferential and have a region that is oriented toward the electrical contact and, at the same time, (ii) the sealing lip is required to seal the plug against the receiving device when fuel is conveyed through the fuel pump, and (iii) the sealing lip is required to be integrally formed with the plug casing. *Herster* fails to teach or suggest these features, and the Examiner has simply glossed over these salient aspects of Appellant's claimed invention.

The structure of *Herster* can not meet the requirements of (i), (ii) and (iii) as recited in independent claim 1. The groove 62 of *Herster* is simply incapable of forming a seal with an outer circumference that abuts the inner surface of the receiving device and is in capable of defining a portion of a sealing assembly that receives and guides an O-ring for the direct seal between the plug and the receiving devices, as asserted by the Examiner. As stated above, the skilled person would have no reason to provide an O-ring 66, a seal 40 or a sealant 46 if it were indeed possible for any portion of the groove 62 to provide a sealing capability in the manner required by independent claim 1. *Herster* thus fails to teach or suggest the expressly recited subject matter of independent claim 1.

Zoell is cited for its teaching of extrusion coating. *Zoell* is directed to a connector for a fuel pump of a motor vehicle that is extrusion coated for protection from corrosion caused by fuel. *Zoell* (col. 3, lines, 26-28) explains that "the connector 1 is plugged onto the bearing plate 10, after assembly". *Zoell* (col. 3, line 30 to col. 4, line 4) additionally explains that "[t]he carbon brushes 5 are mounted, such that they can move, in the receptacles 11 in the bearing plate 10, in such a manner that they can move downward in the event of wear resulting from the

electric motor, which is not illustrated but is arranged under the bearing plate 10". However, *Zoell* still fails to teach or suggest a "circumferential sealing lip which includes a region that is oriented toward the electrical contacts and which seals the plug against the receiving device". Moreover, there is no teaching or suggestion that a sealing lip is integral with a plug casing, as recited in independent claim 1.

Thus, the combination of *Herster* and *Zoell* fails to teach or suggest the expressly recited subject matter of independent claim 1 for *at least* this reason.

Dependent claims 2, 4, and 7 are allowable for at least the same reasons as is independent claim 1.

1. **REJECTION OF CLAIMS 1, 6, AND 10 IN VIEW OF KOBMAN AND ZOELL**

INDEPENDENT CLAIM 1

Independent claim 1 recites "and an integrally formed, circumferential sealing lip which includes a region that is oriented toward the electrical contacts and which seals the plug against the receiving device when fuel is conveyed through the fuel pump" and "the plug being extrusion-coated with plastic to form a plug casing, the circumferential sealing lip being integrally formed together with the plug casing." That is, beyond requiring the sealing lip to be circumferential, the sealing lip is additionally required to be oriented toward the electrical contacts. The claimed sealing lip requires multiple aspects to be met, i.e., (i) the sealing lip is required to be circumferential and have a region that is oriented toward the electrical contact and, at the same time, (ii) the sealing lip is required to seal the plug against the receiving device when fuel is conveyed through the fuel pump, and (iii) the sealing lip is required to be integrally formed with the plug casing. *Kobman* fails to teach or suggest these features.

According to the Examiner (pg. 6) *Kobman* teaches "an integrally formed, circumferential sealing lip (56) which includes a region (upper face of element 56 that abuts the lower end face of element 68) that is oriented toward the electrical contacts". Appellant disagrees.

Kobman relates to an electric pump outlet assembly (see col. 1, lines 5-6). *Kobman* explains that the "[t]he outer cover 30 is a hollow, cup-shaped member having a cylindrical side wall 66 substantially closed at the outer end by the end wall 49 and open at the inner end. The skirt 68 at the open end fits over the base 54 of the inner cover 32 and abuts the flange 56 of the inner cover. The outer cover thus encloses and protects the ways 58 on the inner cover and the brushes 62,64 therewithin" (see col. 2, lines 30-36). However, apart from merely explaining that the skirt 68 fits over the base 54 of the inner cover and abuts the flange 56 in the inner cover, there is no description whatsoever in *Kobman* of the structure of the flange 56 which the Examiner asserts corresponds to the claimed integrally formed circumferential sealing lip of independent claim 1.

The Examiner further asserts at pg. 2 of the December 1, 2010 Advisory Action that:

> The flange 56 forms an outward protruding annular surface that constitutes a lip and the upper surface that abuts the skirt 68 is a region of the lip defined by flange 56. The upper surface of the flange 56 abuts the bottom of the skirt 68 of the cover 30 (constructively forming a plug) and thus forms a contact type of seal between the flange and the skirt 68. Thus the flange 56 forms a circumferential sealing lip.

Appellant disagrees with the Examiner's interpretation of *Kobman*.

A close review of Figs. 1 and 4 of *Kobman* reveals that the device shown therein suffers from the same deficiencies as *Herster*. Specifically, the flange 56 of the *Kobman* device is aligned perpendicularly to the sidewall of the base 54. Therefore, the plane created by this

perpendicularly aligned surface is oriented radially outward and, thus, not toward the electrical contacts 75, 76 of the *Kobman* device. Moreover, the upper surface or face of the flange 56 creates a plane that extends in parallel to plane the created by the electrical contacts 75, 76. It is a well-settled principle that parallel lines never intersect, and the skilled person knows this.

Figs. 3 and 4 of *Kobman* shows electrical contacts (pins) 75, 76 that are oriented vertically, and each define a plane that extends within the housing in an upwardly and downwardly direction. The base of these electrical contacts can be identified by reference designator 84 (which actually identifies a socket). Also shown is a wire 78 that is connected to the electrical contacts 75, 76.

The structure identified by the Examiner, i.e., flange 56, which allegedly corresponds to Appellant's claimed integrally formed, circumferential sealing lip is oriented outwardly from the outer surface of the cylindrical base 54. Thus, even assuming, *arguendo*, that the flange 56 of *Kobman* forms a circumferential sealing lip as asserted by the Examiner – which in any event Appellant disputes – the flange 56 of the *Kobman* device is clearly aligned perpendicularly to the sidewall of the base 54 and is not oriented toward the electrical contacts 75, 76 of the *Kobman* device, as required by independent claim 1. Moreover, even if the upper surface of the flange 56 is considered, this surface also extends parallel to the plane that extends internally within the housing in the upwardly and downwardly direction. *Kobman* likewise thus fails to teach or suggest the expressly recited subject matter of independent claim 1, i.e., "an integrally formed, circumferential sealing lip which includes a region that is oriented toward the electrical contacts and which seals the plug against the receiving device".

Zoell fails to teach what *Kobman* lacks. As explained above, *Zoell* also fails to disclose a circumferential sealing lip as recited in independent claim 1.

Since *Zoell* fails to teach or suggest a circumferential sealing lip, the combination of *Kobman* and *Zoell* fails to teach or suggest at least "an integrally formed, circumferential sealing lip which includes a region that is oriented toward the electrical contacts and which seals the plug against the receiving device" and "the plug being extrusion-coated with plastic to form a plug casing, the circumferential sealing lip being integrally formed together with the plug casing in one working step to permit simultaneous production of the integrally formed circumferential sealing lip with the plug casing", as recited in independent claim 1. Moreover, there is no teaching or suggestion that a sealing lip is integral with a plug casing, as recited in independent claim 1.

For at least the above reasons, the rejections of claim 1 under 35 U.S.C. §103(a) should be withdrawn.

Dependent claims 6 and 10 are allowable for at least the same reasons as is independent claim 1.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that appellant's claims are not rendered obvious by and are, therefore, patentable over the art of record, and the Examiner's rejections should be reversed.

Respectfully submitted,
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CLAIMS APPENDIX

1. (Previously Presented) A connection piece for a fuel pump, comprising:

a receiving device; and

a plug arranged in the receiving device, the plug having electrical contacts for connecting an electric motor of the fuel pump to a mains supply and an integrally formed, circumferential sealing lip which includes a region that is oriented toward the electrical contacts and which seals the plug against the receiving device when fuel is conveyed through the fuel pump, the plug being extrusion-coated with plastic to form a plug casing, the circumferential sealing lip being integrally formed together with the plug casing in one working step to permit simultaneous production of the integrally formed circumferential sealing lip with the plug casing.

2. (Previously Presented) The connection piece as claimed in claim 1, wherein the circumferential sealing lip is arranged on the plug in a region of a bushing of the electrical contacts.

3. (Canceled)

4. (Previously Presented) The connection piece as claimed in claim 1, wherein the circumferential sealing lip is elastically deformable.

5. (Canceled)

6. (Previously Presented) The connection piece as claimed in claim 1, wherein the connection piece defines a recess, said plastic forming an edge around said electrical contacts, said recess receiving said edge, and said circumferential sealing lip surrounding said recess on an inner side of said connection piece.

7. (Previously Presented) The connection piece as claimed in claim 1, wherein the receiving device receives and holds the plug by a latching means.

8. - 9. (Canceled)

10. (Previously Presented) The connection piece as claimed in claim 1, wherein the receiving device is configured so that, in an installed state of the connection piece on the fuel pump, fuel pressure acts on the plug from one side to press the circumferential sealing lip against the connection piece.

EVIDENCE APPENDIX

N/A

RELATED PROCEEDINGS APPENDIX

N/A